Daniel, T.F. 2012. An update of Salvadoran Acanthaceae. Phytoneuron 2012-58: 1–5. Published 27 June 2012. ISSN 2153 733X

AN UPDATE OF SALVADORAN ACANTHACEAE

THOMAS F. DANIEL
Department of Botany, California Academy of Sciences
Golden Gate Park, 55 Music Concourse Drive
San Francisco, California 94118
tdaniel@calacademy.org

ABSTRACT

New distribution records for 18 species of Acanthaceae are reported for departments within El Salvador. One of these, *Justicia calliantha*, is newly reported for the country as well. Forty-four native species in 17 genera are currently known from El Salvador. Regional differences in species richness of Salvadoran Acanthaceae are discussed and mapped.

KEY WORDS: Acanthaceae, El Salvador, species richness, *Justicia calliantha*.

Daniel (2001) documented 67 species in 31 genera of Acanthaceae from El Salvador. Forty-three acanthaceous species were treated as native to the country. It was shown that 34 (79%) of the native species had been collected since 1960, and thus, in spite of extensive alteration of biotic communities in that Central American nation, the acanthaceous flora of El Salvador remains relatively rich and intact.

Among the major political divisions (departments) of El Salvador, Daniel (2001) noted an unequal distribution of species. Some departments in the western portion of the country (e.g., Ahuachapán [27] and Santa Ana [25]) had a disproportionately high number of species compared with several departments in north-central El Salvador (e.g., Chalatenango [2], Cuscatlán [1], and Cabañas [1]). Neither sizes of departments nor numbers of biotic communities in them appear to correlate with the numbers of species per department. Daniel (2001) noted possible reasons, including accessibility and thoroughness of collecting activities, for the apparent geographic discrepancies in species richness. Indeed, recent collections from throughout El Salvador that have become available since 2001 reveal the presence of at least 10 and seven species of Acanthaceae in Chalatenango and Cabañas, respectively. It appears that under-collection, at least in these two departments, may account for some of the perceived geographic differences in species richness within the country.

New distribution records for Acanthaceae of El Salvador, which update the distributions reported in Daniel (2001), are noted below by species and department. These include one species, *Justicia calliantha* Leonard, newly reported for the country, and new departmental records for 18 species. Forty-four native species in 17 genera are currently known from the country. Figure 1 shows the political departments of El Salvador and the numbers of native species of Acanthaceae now known for each. Considering the nation's small size, high human population density, and extensive alteration of natural habitats (Williams et al. 2002), the relative richness of Salvadoran Acanthaceae is likely due to the weedy tendencies of many species in the family (cf. Daniel 2004a: 701).

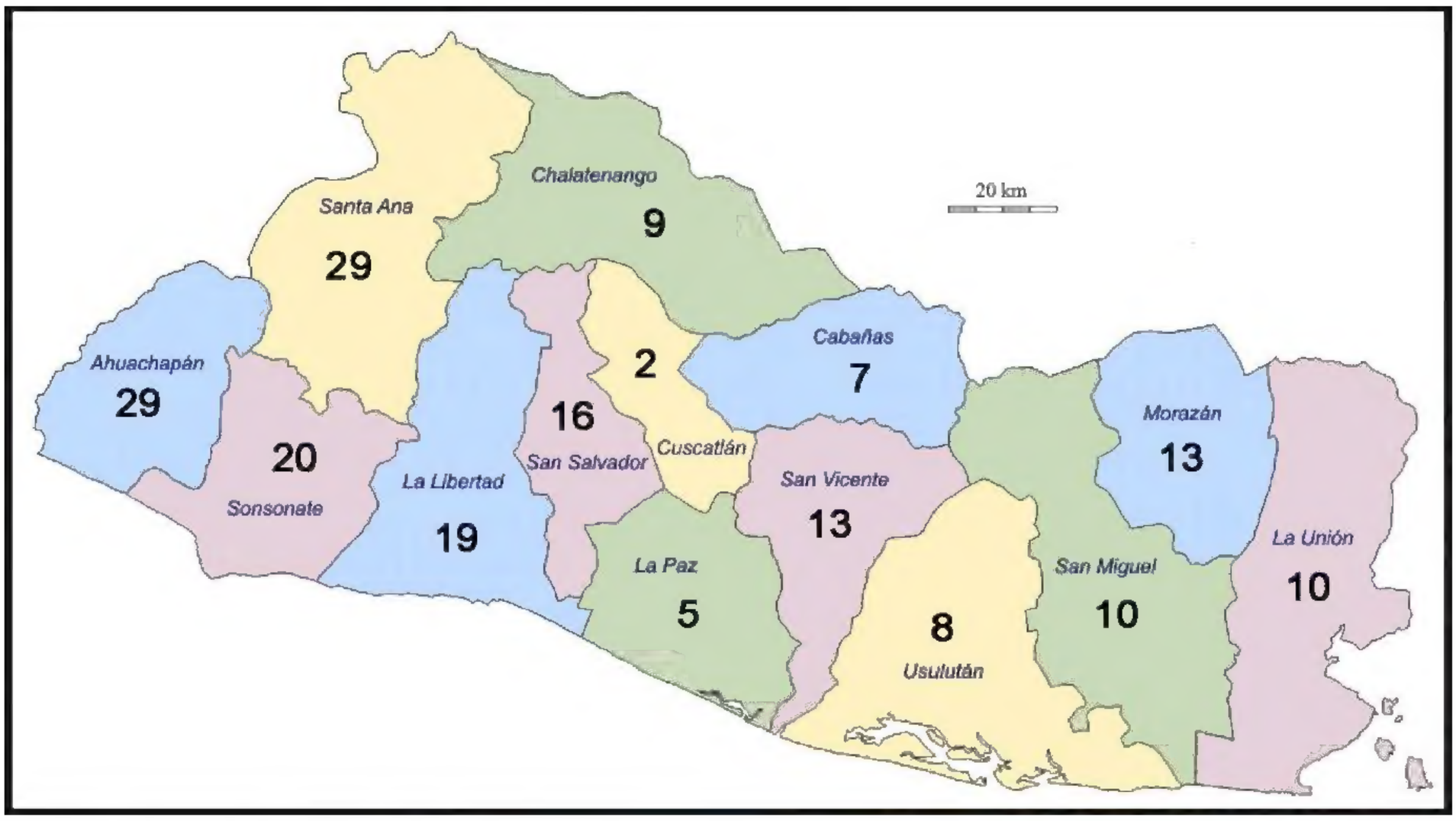

Figure 1. Map of El Salvador showing departments and numbers of native species of Acanthaceae in each.

Aphelandra heydeana Donn. Sm.

Chalatenango: San Francisco del Túnel, 1100 m, 23-X-1957, *L. González 1724* (USF).

Aphelandra scabra (Vahl) Sm.

Chalatenango: Nuevo Concepción, area protegida Pañanalapa, Los Chorros, 500 m, 14°05'N, 89°25'W, 18-X-2000 (flr), *K. King & J. Chávez 113* (MO). **Cuscatlán**: a la orilla del Cerrón Grande, 250 m, 13°85'N, 89°2'W, "antorcha," 9-XII-1997 (flr), *M. Renderos 353* (CAS, MO).

Barleria oenotheroides Dum. Cours.

Cabañas: Cinquera, Zona Protegida, camino a Río San Benito, 13°53'N, 88°57'W, 374 m, 23-I-2003 (flr), *R. Carballo & F. Medrano 596* (CAS, MO). **Morazán**: A.P. Río Sapo, puente abajo, 636 m, 13°55'N, 88°06'W, 19-I-2005 (flr), *R. Carballo 1243* (MO). **Sonsonate**: Santa Isabel Ishuatán, propriedad de M. Castillo, 13°41'N, 89°33'W, 430 m, bosque de galería, 5-II-2006 (flr), *D. Rodríguez & G. Trejo 201* (MO).

Elytraria imbricata (Vahl) Pers.

Chalatenango: El Paraíso, Santa Barbara, 330 m, 14°05'N, 89°05'W, 1-XII-1997 (flr, frt), *J. González & Serrano 479* (CAS, MO)[local name: "coquillo"]; La Palma area, Caballero, 14°18.425'N, 89°08.322'W, 900—1500 m, 8-11-2001, *D. Sloot & D. Reina 322* (U). **Usulután**: Laguna de Alegría, 1070 m, 13°29'N, 88°32'W, 23-I-1999, *D. Williams 65* (MO).

This species was reported from Usulután by Williams et al. (2002), and the specimen cited above from that department confirms their identification.

Henrya insularis Nees ex Benth.

Santa Ana: Mpio. Metapán, entrada al área protegida San Diego-La Barra (KM 106 carr. Santa Ana-Metapán), 14°16'22"N, 88°27'28"W, 650 m, selva baja caducifolia, 3-I-2004, *J. Linares & C. Martínez 7251* (MEXU). **Usulután**: Laguna de Alegría, 1070 m, 13°29'N, 88°32'W, 18-II-1999, *D. Williams 153* (MO).

This species was reported from Usulután by Williams et al. (2002), and the specimen cited above from that department confirms their identification.

Hypoestes phyllostachya Baker

Ahuachapán: San Francisco Menéndez, El Corozo, Mariposario, xona alta "Los Peralta," 13°49'N, 89°59'W, 325 m, 23-VIII-2000 (flr), *J. Rosales 1324* (LAGU, MO). **Chalatenango**: La Montañona, CORBELAM, la cadena, 14°23'N, 88°91'W, 1400 m, 18-X-2002 (flr), *R. Cristobal 4677* (MO). **La Unión**: cantón Monteca, Nueva Esparta, alrededores del Cacerío Upire, 13°88'N, 87°86'W, 900 m, 16-XII-2007, *R. Ibarra et al. s.n.* (MO).

This species is native to Madagascar but naturalized in numerous warm-temperate and tropical regions worldwide. In El Salvador it is both cultivated and naturalized. The collection from Ahuachapán noted above was undoubtedly cultivated, but those from Chalatenango and La Unión possibly represent naturalized plants.

Justicia aurea Schlecht.

Chalatenango: El Paraiso, 330 m, 14°5'N, 89°5'W, 13-VIII-1989 (flr), *J. Gonzalez 526* (CAS) [local name: "antorcha,"].

Justicia breviflora (Nees) Rusby

Cabañas: Cinquera, ruta El Obrajón—El Tule, 13°53'N, 88°56'W, 560 m, vegetación secundaria en regeneración, 22-VIII-2006 (frt), *J. Monterrosa et al. 1103* (CAS).

These Salvadoran plants have a single flower per node above the proximalmost node.

Justicia calliantha Leonard

Morazán: A.P. Río Sapo, Cuenca de quebrada seca, 13°55'N, 88°06'W, 689 m, 5-II-2004, *R. Carballo et al. 1029* (MO).

This species is newly reported from El Salvador. It was described and treated by Daniel (2005) as endemic to Honduras, where it is known from the south-central portion of that nation. A related species, *J. sulfurea* (Donn. Sm.) D.N. Gibson, occurs in western El Salvador. These species of *Justicia* sect. *Mesoamericanae* (Daniel 2004b) can be distinguished by the following couplet:

1. Corolla red, 29–34 mm long, externally pubescent with glandular and eglandular trichomes; leaves ovate to broadly ovate to cordate, 1.1–1.9 times longer than wide ..... **Justicia calliantha**
1. Corolla yellow, 17–29 mm long, externally pubescent with eglandular trichomes only; leaves lance-ovate to ovate, 2.5–4.5 times longer than wide ..... **Justicia sulfurea**

Justicia colorifera V.A.W. Graham

Chalatenango: Nueva Concepción, area protegida Pañanalapa, Los Chorros/Montecillo, 500 m, 14°05'N, 89°25'W, bosque seco, 16-III-2000, *K. King & J. Chávez 9* (MO).

Justicia comata (L.) Lam.

Ahuachapán: A.P. Santa Rita, sector 3, montaña Santa Rita, 13°48'N, 90°04'W, 20 m, 14-I-2004 (flr), *J. Rosales 1867* (CAS, MO) [local name: "coyuntura"]. **La Libertad**: bed of nearly extinct Laguna de Zapotitan, shore of pool, 9-IX-1951 (flr, frt), *N. Fassett 29349* (WIS).

Nelsonia canescens (Lam.) Spreng.

Cabañas: Cinquera, Zona Protegida, Campamento el Niño, 13°52'N, 88°58'W, 479 m, 19-II-2003 (flr), *R. Carballo & R. Medrano 624* (CAS).

This species was tentatively treated as native in Central America by Daniel (2001). Although it is similarly treated here, it appears increasingly likely that the Central American, and probably the South American, representatives of *N. canescens* are not native in the New World (cf. Franck & Daniel 2011).

Ruellia blechum L.

Cabañas: Cinquera, Zona Protegida, camino a Río San Benito, 13°53'N, 88°57'W, 374 m, 23-I-2003 (flr, frt), *R. Carballo & F. Medrano 593* (CAS, MO); Cerro el Ujushte, 450 m, *J. Morales 2110* (USCG). **Chalatenango**: El Paraiso, Santa Barbara, 330 m, 14°5'N, 89°5'W, vegetación secundaria, 1-XII-1997 (flr), *J. Gonzalez & Serrano 489* (CAS). **San Miguel**: Canton San Antonio Chavez, 30-XII-1978 (flr), *R. Seiler 805* (F). **Santa Ana**: Metapán, P.N. San Diego-La Barra, sector 12, Bosque La Barra, 14°18'N, 89°32'W, 470 m, orillas de veredas en bosque tropical siempre verde, 17-I-2011 (flr, frt), *D. Rodríguez et al. 2232* (CAS). **Usulután**: Laguna de Alegría, 13°29'N, 88°32'W, 1070 m, 23-I-1999 (flr), *D. Williams 19* (LAGU).

This species, treated by Daniel (2001) under the synonym *Blechum pyramidatum* (Lam.) Urb., has been shown to pertain to *Ruellia* (Tripp et al. 2009). The collection from Usulután was noted by Williams et al. (2002), and I confirm the determination based on an image of the specimen at LAGU.

Ruellia donnell-smithii Leonard

Santa Ana: Santa Ana, *Weedland 406* (C).

Ruellia geminiflora Kunth

Ahuachapán: San Benito, El Casco, 780 m, 13°49'N, 89°56'W, 20-IX-1997 (frt), *E. Sandoval 1673* (CAS).

Ruellia inundata Kunth

Cabañas: Cinquera, Zona Protegida, Campamento el Niño, 13°52'N, 88°58'W, 479 m, 19-II-2003 (flr), *R. Carballo & F. Medrano 631* (CAS, MO). **Chalatenango**: Arcatao, Río Zazalapa, 14°06'N, 88°45'W, 360 m, bosque de galería, 20-I-2008 (flr, frt), *R. Ibarra s.n.* (*JBL 05145*) (MO). **La Paz**: cantón Amulungo, San Pedro Nonualco, 13°36'N, 88°56'W, orilla de la calle, 1-II-1998 (flr, frt), *J. González & M. Hernández 513* (CAS, LAGU, MO). **Morazán**: A.P. Río Sapo, por puente, 13°56'N, 88°06'W, 688 m, 11-III-2004 (flr, frt), *R. Carballo 1135* (MO).

Ruellia metallica Leonard

Santa Ana: Hacienda "Las Lajas," 1500 m, 23-X-1957 (frt), *A.C. del Cid 1734* (USF).

Tetramerium tenuissimum Rose

Cabañas: Cinquera, Zona Protegida, cuenca de Río Cutumayo, 13°52'N, 88°58'W, 421 m, 20-III-2003 (flr), *R. Carballo & M. Carrillo 660* (CAS, MO).

ACKNOWLEDGEMENTS

I am grateful for the assistance of Dagoberto Rodríguez Delcid (LAGU), Nancy Hensold (F), and Mark Allen Wetter (WIS) for sending information about collections. For loans and other courtesies I am grateful to the curators of the following herbaria: C, CAS, F, LAGU, MEXU, MO, USCG, USF, WIS. Visits to herbaria were funded by the National Science Foundation (DEB-0743273), the Flora of North America Project (2010 microgrant), the National Geographic Society (Research Award 8570-08), and the California Academy of Sciences (In-House Research Fund).

LITERATURE CITED

Daniel, T.F. 2001. Catalog of Acanthaceae in El Salvador. Contr. Univ. Michigan Herb. 23: 115–137.

Daniel, T.F. 2004a. Acanthaceae of Sonora: taxonomy and phytogeography. Proc. Calif. Acad. Sci. 55: 690–805.

Daniel, T.F. 2004b. A synopsis of *Justicia* section *Mesoamericanae* (Acanthaceae). Proc. Calif. Acad. Sci 55: 174–183.

Daniel, T.F. 2005. Catalog of Honduran Acanthaceae with taxonomic and phytogeographic notes. Contr. Univ. Michigan Herb. 24: 51–108.

Franck, A.R. and T.F. Daniel. 2011. *Nelsonia canescens*, a genus and species new to the adventive flora of the United States. Castanea 76: 429–431.

Tripp, E.A., T.F. Daniel, J.C. Lendemer, and L.A. McDade. 2009. New molecular and morphological insights prompt transfer of *Blechum* to *Ruellia* (Acanthaceae). Taxon 58: 893–906.

Williams, D., R.W. Herrera, and J.L. Linares. 2002. The vascular flora of the Laguna de Alegría, a national monument in the crater of Tecapa Volcano, El Salvador. Sida 20: 675–690.